

# **Draft Agenda and Discussion Questions for the Integrated Energy Policy Report Workshop**

## ***Tuesday, February 25, 2002***

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| 10:00 – 10:15 | Welcome Remarks and Introduction   |
| 10:15 – 12:00 | Presentation and discussion of the Staff Draft Report on<br><i>Preliminary California Energy Demand 2003-2013 Forecast</i>   |
| 12:00 – 1:00  | Lunch (on own)   |
| 1:00 – 2:30   | Continued discussion of preliminary demand forecast and<br>scenario considerations for infrastructure risk analysis  |
| 2:30 – 5:00   | Presentation and discussion of the Staff Draft Reports on<br><i>California Investor-Owned and Municipal Utilities Retail<br/>Electricity Price Outlook 2003-2013</i> |

## ***Wednesday, February 26, 2002***

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| 10:00 – 12:00 | Presentation and discussion of the Staff Draft Report on<br><i>Preliminary Electricity And Natural Gas Infrastructure<br/>Forecast Assumptions</i>        |
| 12:00 – 1:00  | Lunch (on own)  |
| 1:00 – 2:30   | Continued discussion of infrastructure assumptions and<br>scenario considerations for risk studies  |
| 2:30 – 5:00   | Presentation and discussion of the Staff Draft Report on<br><i>Comparative Cost Of California Central Station Electricity<br/>Generation Technologies</i> |

Parties are invited to actively participate and comment at this Committee Workshop. Parties wishing to make a presentation are requested to call Al Alvarado at (916) 654-4749 or contact him by e-mail at [aalvarad@energy.state.ca.us](mailto:aalvarad@energy.state.ca.us).

## Discussion Questions for Workshop Topic Areas

On February 11, 2003, the Energy Commission staff published five draft reports that present preliminary results of ongoing electricity and natural gas infrastructure studies. These are the first of a series of staff reports that will serve as the foundation for preparing the **2003 Electricity and Natural Gas Report**, under the Integrated Energy Policy Report Proceeding (Docket 02-IEP-01). These draft reports are:

1. *California Energy Demand 2003-2013 Forecast*  
(Publication Number 100-03-002SD)
2. *California Investor-Owned Utilities Retail Electricity Price Outlook 2003-2013* (Publication Number 100-03-003SD)
3. *California Municipal Utilities Retail Electricity Outlook 2003-2013*  
(Publication Number 100-03-005SD)
4. *Preliminary Electricity and Natural Gas Infrastructure Assumptions*  
(Publication Number 100-03-004SD)
5. *Comparative Cost Of California Central Station Electricity Generation Technologies* (Publication Number 100-03-001SD)

Interested parties are requested to provide comments on these staff draft reports, technical feedback on the underlying analytical assumptions, and identify any other issues that the Energy Commission should consider for the energy infrastructure assessments. Written and verbal comments made at the February 25<sup>th</sup> and 26<sup>th</sup> Committee Workshop will be instrumental in refining the Energy Commission staff analysis.

The following is a brief description of each of the staff draft reports and a list of questions to guide the discussion at the workshop. These questions are designed to elicit public input and do not preclude the consideration of any other subjects from interested participants.

### ***Preliminary Electricity and Natural Gas Demand Ten-Year Outlook:***

The Energy Commission staff developed baseline electricity and natural gas demand forecasts for 2003 through 2013. The next phase of the demand trends

analysis will reflect a band of plausible demand cases, depending on economic and energy efficiency ranges. These cases will be used to examine the sensitivity and impacts of different resource development options and public interest policies.

Staff will present for comment the preliminary baseline demand forecast for California, including annual energy consumption and peak demand for each utility planning area.

Staff will present for discussion their data and assumptions on the following topics:

1. Recent trends in energy use.
2. Economic and demographic projections used to develop the forecast.
3. Energy efficiency program impacts included in the forecast.
4. The extent to which voluntary conservation originating in 2001 is persisting.
5. Weather scenarios and their effect on peak demand

Staff intends to analyze several scenarios with its price, demand, and electricity system models to assess the sensitivity of forecast results and to help identify energy system risks. The scenario definitions are expected to focus on variation in energy prices, conservation and energy efficiency, and economic conditions. The staff would like participants to consider the following questions:

1. What are the greatest uncertainties for electricity and natural gas demand, energy prices, and supply adequacy?
2. Which variables should the staff consider for the scenarios focus?

### ***Preliminary Retail Electricity Price Outlook for California:***

The Energy Commission staff prepared a ten-year projection of retail electricity rates for customers of the major investor-owned and municipal utilities. This is only one scenario of many that can happen over the 2003-2013 outlook period. Of course, the structure of retail rates is subject to regulatory decisions and will likely change over time as policy-makers balance the multiple ratemaking goals. The Energy Commission staff is interested in evaluating how current and projected rate structures might influence the State's business climate, electricity consumption, and direct access. This can help policy-makers decide whether they want to change rate structures. Questions to consider include:

1. How realistic are staff assumptions of a typical customer for residential, small commercial, medium commercial, industrial and agricultural customer classes

described in Table 1 of both, the municipal and investor-owned utility, reports on retail rates?

2. Staff derived present rates using only one rate schedule to represent a customer class. Is this enough to represent a whole customer class?
3. Staff used baseline allocations and tier rates to derive a present average rate for residential customers. Would this method distort the definition of present rates for a typical residential customer?
4. Staff used present rate components to project IOU and municipal future rates, except that municipal utilities do not unbundled rates as IOUs do? Is this methodology appropriate?
5. Staff has assumed that the California Public Utilities Commission will keep the same rate methodology for allocating revenue requirement among customer classes and rate schedules over the 2003 outlook period. What is the likelihood that the CPUC will radically change that method over that period?
6. Although the outcome of the PROACT agreement is still in questions at the State Supreme Court is possible that the CPUC will implement a similar agreement with PG&E?
7. If the staff's rate outlook materializes, what is the impact to attract or retain businesses in the State?
8. How likely is a major change in rates over the outlook period?
9. Can municipal utilities in Southern California compete with Edison after the energy surcharges are dropped from rates?
10. What impact would lower IOU rates in 2004 have on distributed generation?

### ***Preliminary Electricity and Natural Gas Infrastructure Assumptions:***

The purpose of this draft report is to itemize the electricity generation changes in California and neighboring regions during the past three years, assess current electricity market conditions, and present a preliminary ten-year "resource plan." This resource plan is a set of assumed generation capacity additions, retirements and transmission upgrades in the West from 2004 to 2013. Energy Commission staff do not offer this as a "most likely" set of changes to the region's electricity infrastructure, but merely as a plausible and well-reasoned resource plan.

This preliminary resource plan is proposed as a benchmark for assessing the adequacy of the State's generation and transmission systems, and implications to the natural gas infrastructure needs. Energy Commission staff also intends to

evaluate the sensitivity of the results to changes in both the resources added (and retired) during the next decade and other significant variables (e.g., demand growth, hydro conditions). This is the first of the building blocks necessary to evaluate the uncertainties that will affect actual infrastructure developments in the next several years and to assess the risks associated with long-term resource adequacy concerns.

Questions to consider for the workshop discussion include:

1. Staff proposes to use the assumption that the selected plants being considered by municipal utilities to reduce spot market exposure will be built in a timely fashion. Should this assumption be revisited if simulations reveal that spot market prices will be at competitive levels?
2. Staff proposes to use the assumption that two of the three proposed generation projects that the State has established "step in" rights will be built, coming on-line roughly one year after the contractual deadlines for completion. Should this assumption be changed?
3. Staff proposes to use the assumption that reserve margins in California and the remainder of the WECC will gradually return to their 1999 levels. This is based on the assumption that regulators will compensate capacity investments to ensure at least this level of reserves. Is this a reasonable proposal?
4. Given that California's fleet of power plants is aging and that many of these facilities are owned by merchant generators, should staff be concerned that some of this capacity may be retired before new replacement generation can be brought online? What criteria should be used to develop a retirements assumption?
5. Staff proposes to use the assumption that a number of planned transmission upgrades that are needed to deliver power from areas with surplus generation capacity will be developed. These areas include Baja California, the Imperial Valley and Palo Verde. Staff also proposes to use the assumption that upgrades needed to deliver power into major load pockets take place. These upgrades include San Francisco, San Diego and Phoenix. Are these transmission upgrade assumptions reasonable? What are the timing and magnitude of these upgrades? Should these developments affect the decision to add generation capacity in constrained areas? What other electric transmission projects are necessary to maintain grid reliability in the next 10 years? What electric transmission projects could provide economic benefits to California in the next 10 years?
6. Staff will evaluate the implications that the Renewable Portfolio Standard (RPS targets may have on the need for other new generation capacity to

meet load and implications to the natural gas infrastructure. What alternative levels of RPS development should staff consider to conduct a risk analysis of the electricity and natural gas system?

7. Staff assumes that the annual capacity additions to meet the RPS target are approximately 125 MW of geothermal capacity, 220 MW of wind, and 50 MW of biomass or biogas generation. All but 125 MW of the geothermal capacity is assumed to be in the Imperial Valley and a third of the wind capacity is assumed to be north of Path 15. Are these realistic assumptions?
8. Staff will assume that the transmission upgrades needed to deliver RPS energy through 2013 will be built. What additional transfer capability will be required over major transmission paths in the state?

### ***Comparative Cost of Central Station Electricity Generation Technologies:***

The Energy Commission staff prepared preliminary estimates of the levelized costs for both renewable and non-renewable central station generation technologies. Decision-makers and others can use this information to compare the generic costs to build a specific technology. However, the technology characterizations in the report do not capture all of the system, environmental or other relevant attributes that would typically be needed by a portfolio manager to conduct a comprehensive "comparative value analysis." A portfolio analysis will vary depending on the particular project proposals, evaluation criteria and measurement goals of each study. Recognizing these limitations, the information in this report can be used to help anyone wishing to understand some of the fundamental attributes that are generally considered when evaluating the cost of building and operating different electricity generation resources.

1. How sensitive are cost estimates to the parameter values assumed for the different categories (e.g. economic lifetime, fuel cost estimate)?
2. Other than cost, what factors are important when evaluating the merit of a specific technology? Can we quantify the value of these other factors?
3. The technology costs provided are only general estimates of the cost of building a power plant. What other factors may help determine the actual building cost, on a site- specific basis?
4. Based on the cost figures presented in the staff draft report, are there any other costs to consider for developing renewable technologies in California?